Patent Claims

1. Method for determining a connecting path in a communication network, comprising the steps:

a) determining whether a suitable connecting path to a requested destination node of the communication network is already stored;

b) when, in step a), a suitable, stored connecting path has not yet been identified, determining a suitable connecting path to the requested destination node on the basis of stored network data that describe the communication network, and storing the connecting path, so that this is available for a new determination of a connecting path in step a); and

c) communicating path information corresponding to the connecting path determined in step a) or b) to network nodes that are a component part of the determined connecting path in order to set up the determined connecting path to the requested destination node.

2. Method according to claim 1, characterized in that a connecting path to the requested destination node is considered as suitable connecting path in step a) or b) when the corresponding connecting path leads from an originating node of the communication network to the requested destination node and specific transmission properties for a data transmission to the destination node are met.

3. Method according to claim 1 or 2, characterized in that a plurality of standard connecting paths to specific network nodes of the communication network are permanently stored in advance, these being checked in step a) together with connecting path previously determined and stored according to step b).

4. Method according to one of the preceding claims, characterized in that only a specific, maximum plurality (n) of determined connecting paths are stored in step b).

5. Method according to claim 4, characterized in that, given determination of a new, suitable connecting path in step b), the connecting path previously stored longest according to step b) is erased when a plurality of connecting paths that

corresponds to the maximum plurality (n) has already been previously determined and stored according to step b).

6. Method according to claim 4, characterized in that, given determination of a new, suitable connecting path in step b), the connecting path previously stored according to step b) and used least according to step c) is erased when a plurality of connecting paths that corresponds to the maximum plurality (n) has already been previously determined and stored according to step b).

7. Method according to one of the claims 4-6, characterized in that the maximum plurality (n) of the connecting paths that can be stored according to step b) is variable.

8. Method according to claim 7, characterized in that the plurality of overflow cases is counted wherein a new connecting path has been determined according to step b) and is to be stored even though a plurality of connecting paths that corresponds to the maximum plurality (n) has already been previously determined and stored according to step b); and in that the maximum plurality (n) of connecting paths that can be stored according to step b) is set dependent on the number of overflow cases.

9. Method according to claim 7 or 8, characterized in that, when a new connecting path has been determined according to step b) and is to be stored even though a plurality of connecting paths that corresponds to the maximum plurality (n) has already been previously determined and stored according to step b), the maximum plurality (n) of connecting paths that can be stored according to step b) is raised for a specific time span and is in turn reset after the expiration of the specific time span.

10. Method according to one of the preceding claims, characterized in that the steps a) - c) are automatically implemented by control means (4) in a switching equipment (1) that forms a network node (K_1 - K_{10}) of the communication network.

11. Switching equipment (1) for a communication network, comprising a plurality of line units (2) that are respectively connected to at least one terminal equipment (EG_{11} - EG_{43}) or to at least one further switching equipment,

comprising first memory means (7) for storing network data that describe the communication network;

comprising second memory means (5) for storing connecting paths that connect the switching equipment (1) to specific destination switching equipment of the communication network; and

comprising control means (4) that, upon reception of a connection inquiry via one of the line units (2) for a connection to a requested destination switching equipment of the communication network, search the second memory means (5) for a suitable connecting path to the requested destination switching equipment and, when it does not find a suitable connecting path in the second memory means (5), determines a suitable connecting path to the requested destination switching equipment on the basis of the network data stored in the first memory means and stores it in the second memory means (5),

whereby the control means (4), after determining a suitable connecting path stored in the second memory means (5) or determining a suitable connecting path on the basis of the network data stored in the first memory means (7), communicate path information corresponding to the suitable connecting path via a corresponding line unit (2) to further switching equipment that are a component part of the suitable connecting path to the requested destination switching equipment in order to set up the connecting path to the requested destination switching equipment.

12. Switching equipment according to claim 11, characterized by third memory means (6) wherein a plurality of standard connecting paths to specific destination switching equipment of the communication network are permanently stored,

whereby, as a result of a connection inquiry for a connection to a requested destination switching equipment, the control means (4) search the third memory means (6) together with the second memory means (5) for a suitable connecting path to the requested destination switching equipment.

13. Switching equipment according to claim 11 or 12, characterized in that the control means (4) monitor the plurality of connecting paths stored in the second memory means (5) with respect to a specific, maximum plurality (n).

14. Switching equipment according to claim 13, characterized in that, after determining a new, suitable connecting path on the basis of the network data stored in the first memory means (7), the control means (4) erase the connecting path previously stored longest in the second memory means (5) in case the control means (4) find that a plurality of connecting paths corresponding to the maximum plurality (n) has already been stored in the second memory means (5).

15. Switching equipment according to claim 13, characterized by counting means for counting the frequency of employment of each connecting path stored in the second memory means (5) for a connection setup to a respectively requested destination switching equipment of the communication network, whereby, after determining a new, suitable connecting path on the basis of the network data stored in the first memory means (7), the control means (4) erase the connecting path previously stored in the second memory means (5) that is employed least in case the control means (4) find that a plurality of connecting paths corresponding to the maximum plurality (n) has already been stored in the second memory means (5).

16. Switching equipment according to one of the claims 13 - 15, characterized by

counting means (8) for counting the overflow cases of the second memory means (5) wherein, after determining a new connecting path on the basis of the network data stored in the first memory means (7), this is to be stored in the second memory means (5) even though a plurality of connecting paths corresponding to the maximum plurality (n) has already been previously stored in the second memory means (5), whereby the control means (4) set the maximum plurality (n) of connecting paths stored in the second memory means (5) dependent on the acquired plurality of overflow cases.

17. Switching equipment according to one of the claims 13 - 16, characterized in that,

after determining a new connecting path on the basis of the network data stored in the first memory means (7) and before storing the determined connecting path in the second memory means (5), the control means (4) temporarily increase the maximum plurality (n) of connecting paths that can be stored in the second memory means (5) when the control means (4) find that a plurality of connecting paths corresponding to the maximum plurality (n) has already been previously stored in the second memory means (5).